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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,934	10/17/2001	Min-Koo Kim	678-750 (P9969)	6314

7590 02/27/2004

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EXAMINER

TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/981,934

Applicant(s)

KIM ET AL.

Examiner

Joseph D. Torres

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date 5.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6 and 18-21, drawn to A Method for Generating an Initial Puncturing Matrix by Selecting as Many Information Symbols as a Number of Columns in the Initial Puncturing Matrix, classified in class 714, subclass 790.
- II. Claims 7-12 and 18-21, drawn to A Method of Generating a First Sub-Code by Selecting all the Information Symbols within a Puncturing Range, classified in class 714, subclass 786.
- III. Claim 13-17, drawn to A Method of Generating a Puncturing Matrix by Determining a Number S of the Puncturing Matrices by Calculating a Minimum Integer Equal to or Greater than a Ratio of  $R_{max}$  to  $R_{min}$ , classified in class 714, subclass 790.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group I, A Method for Generating an Initial Puncturing Matrix by Selecting as Many Information Symbols as a Number of Columns in the Initial Puncturing Matrix, and Group II, A Method of Generating a First Sub-Code by Selecting all the Information Symbols within a Puncturing Range, are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, Group I,

A Method for Generating an Initial Puncturing Matrix by Selecting as Many Information Symbols as a Number of Columns in the Initial Puncturing Matrix, and Group II, A Method of Generating a First Sub-Code by Selecting all the Information Symbols within a Puncturing Range, are entirely two different processes performed at different points one in the encoding process and the other in the design of the encoding process; the Generation of an Initial Puncturing Matrix is performed at the design process prior to encoding. See MPEP § 806.05(d).

Inventions Group I, A Method for Generating an Initial Puncturing Matrix by Selecting as Many Information Symbols as a Number of Columns in the Initial Puncturing Matrix, and Group III, A Method of Generating a Puncturing Matrix by Determining a Number S of the Puncturing Matrices by Calculating a Minimum Integer Equal to or Greater than a Ratio of  $R_{max}$  to  $R_{min}$ , are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Group I only requires a puncturing matrix not the specifics of the puncturing matrix of Group II. The subcombination has separate utility such as selecting as many information symbols as a number of columns in the initial puncturing matrix from the information symbols output from the turbo encoder.

Inventions Group II, A Method of Generating a First Sub-Code by Selecting all the Information Symbols within a Puncturing Range, and Group III, A Method of Generating a Puncturing Matrix by Determining a Number S of the Puncturing Matrices by Calculating a Minimum Integer Equal to or Greater than a Ratio of  $R_{max}$  to  $R_{min}$ , are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, Group II, A Method of Generating a First Sub-Code by Selecting all the Information Symbols within a Puncturing Range, and Group III, A Method of Generating a Puncturing Matrix by Determining a Number S of the Puncturing Matrices by Calculating a Minimum Integer Equal to or Greater than a Ratio of  $R_{max}$  to  $R_{min}$ , and Group III, A Method of Generating a Puncturing Matrix by Determining a Number S of the Puncturing Matrices by Calculating a Minimum Integer Equal to or Greater than a Ratio of  $R_{max}$  to  $R_{min}$ , are entirely two different processes performed at different points one in the encoding process and the other in the design of the encoding process; the Generation of an Initial Puncturing Matrix is performed at the design process prior to encoding. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group III, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group I, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group III, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

A telephone call was made to Paul Farrel on 23 February 2004 to request an oral election to the above restriction requirement, but did not result in an election being made.

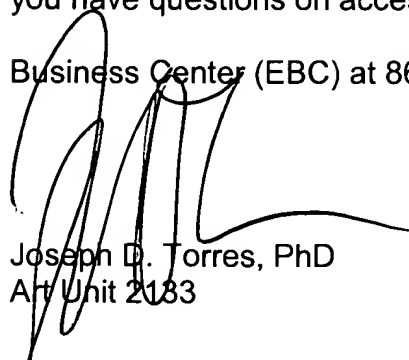
Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph D. Torres, PhD  
Art Unit 2133